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## The Arctic States' Strategies and the Northern Regions' Food Security

### Abstract

The study analyzes strategies established by the Arctic states (Canada, Denmark, Finland, Iceland, Norway, Russian Federation, and USA) for development of their northern regions, with emphasis to food security issues of the Siberian Arctic regions in Russia, specifically Far North area of Krasnoyarsk Krai. Of particular interest is the state of food supply to aforementioned areas. The authors put forward the measures to actively involve the population of the Arctic regions and indigenous peoples of the Far North in the self-procurement of food by utilizing of indigenous subsistence economy products.

**Keywords:** Rational Consumption Norms; Basket of goods; Siberian Arctic Regions; Food Security; Dedicated Nature Management Areas; Minor Indigenous Peoples

**JEL Classification:** H11; H70; Q13; Q18

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### Стратегії Арктичних держав і проблема продовольчої безпеки Північних територій

### Анотація

У статті проаналізовано стратегії Арктичних держав щодо розвитку Північних територій, а також актуальні питання забезпечення продовольчої безпеки сибірських арктичних районів Росії, зокрема, районів Крайньої Півночі Красноярського краю. Особливу увагу приділено проблемі забезпечення окремих районів основними сільськогосподарськими продуктами. Запропоновано заходи з активного залучення населення арктичних територій та корінних малих народів Крайньої Півночі до самозабезпечення продовольством із використанням традиційних для корінних народів способів природокористування.

**Ключові слова:** раціональні норми споживання; продовольчий кошик; сибірські арктичні райони; продовольча безпека; території традиційного природокористування; малі народи.

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**Аннотация**

В статье проанализированы стратегии Арктических государств по развитию Северных территорий, а также рассмотрены актуальные вопросы обеспечения продовольственной безопасности сибирских арктических регионов России, в частности, районов Крайнего Севера Красноярского края. Особое внимание обращается на реальное состояние обеспечения отдельных районов основными продуктами сельского хозяйства. Предлагаются меры по активному вовлечению населения арктических территорий и коренных малочисленных народов Крайнего Севера в самообеспечение продовольствием с использованием продукции традиционного природопользования коренных народов.

**Ключевые слова:** рациональные нормы потребления; продовольственная корзина; сибирские арктические регионы; продовольственная безопасность; территории традиционного природопользования; малочисленные народы.

## 1. Introduction

At the beginning of the XXI century international community demonstrated increased interest in the Arctic. Now both Arctic countries and those remote from the Arctic Circle are keen to promote their economic, political and environmental interests in the region.

Strategic importance of the Arctic is rising due to its huge reserves of hydrocarbons, biological resources, as well as its great transit potential with further development of the Northern Sea Route, the Northwest Passage and trans-Arctic flight routes.

The Northern Sea Route along the Arctic coast of Russia cut the cost of transportation of goods from Europe to China and India up to 1.5-2 times. The Northwest Passage along the coast of Canada also gives substantial savings in transport costs. Global warming has already expanded the potential of these transport routes. The Northern Sea Route is a real advantage, even though some Arctic nations have a negative view on the state of its infrastructure and navigation services.

A number of Non-Arctic states made claims on the Arctic riches, and pushing for changes in international regulation of Arctic legal status.

## 2. Brief Literature Review

The international organizations, such as United Nations, World Health Organization, Arctic Council, place great emphasis on development of Arctic. Their documents, as well as regional strategies by the Arctic states, and data from the Federal State Statistics Service of the Russian Federation (FSSS) have been used to prepare this publication.

We also gave full attention to the publications by the Russian and foreign scientists on the Arctic development and food security problems. A great number of recent publications highlighted the strategic importance of the region. Conde & Iglesias Sanchez (2016) studied geopolitical balance in the region [1]. Polbitsyn, Drokin and Zhuravlev (2014) investigated food security problems in the Northern and Arctic territories, where population should increase amid further development of the Northern Sea Route infrastructure. At the same time, the Northwest Passage transit is not going to grow substantially in the near future [2].

According to Hossain (2015), the EU is particularly dependent upon oil and natural gas produced in the Arctic region, both in Norway and Russia. It has other commercial interests there as well. The EU is the world's largest single market. Aside of being important trading partner for the Arctic states, it also cooperates with its northern partners in exploring and establishing new transport routes to facilitate trade and business. For example, the EU has developed the Galileo satellite program, which, among its other capabilities, enables tracking of transport routes in the Arctic [3].

We share Vasilyev (2013) opinion that the basic «rules of the game» in the Arctic should be determined by those who live

in the region. Any attempts to push the decision of regional issues by the extra-regional powers are unacceptable [4]. At the same, important interests of some non-Arctic states in the region should be respected.

All member states of the Arctic Council [5] have developed and adopted their strategies for the region. These documents were issued under different names: Statement on Canada's Arctic foreign policy (2010) [6], the US National Strategy for the Arctic region (2013) [7], the Norwegian Government's High North Strategy (2006) [8], Finland's Strategy for the Arctic Region (2010). [9], the Kingdom of Denmark Strategy for the Arctic 2011-2020 (2011) [10], Resolution of the Parliament of Iceland's policy towards the Arctic (2011) [11], the Sweden Strategy for the Arctic (2011) [12], the Development strategy of the Russian Arctic and national security for the period until 2020 (2013) [13]. Further, in our references to these documents we universally use the term «strategy» with the indication of specific country.

Decisions by the UN Commission on the Limits of the Continental Shelf play important role in the solution of the controversial issues in the Arctic [14]. Berg (2014) carried out detailed study of the Arctic states' strategies (2010) [15]. His analysis was based upon market-centric approach, where he represented states as the companies, and the Arctic region - as a market.

We have also studied the acts of the Russian legislation [16], the Commissioner's for the Rights of Indigenous Peoples activities [17], the problems of indigenous peoples of the Far North of Krasnoyarsk Krai [18] and analysed the Presidential Decree «On approval of the National Security Doctrine» [19].

Canadian approach is focused primarily at the issues of food security in the Arctic [20] (Inuit Circumpolar Council, 2012), and touches upon the importance of reindeer herding for indigenous peoples (Struzik, 2016) [21].

Statistics for Turukhansk [22], Taimyr [23], and Evenk municipal districts of Krasnoyarsk krai (FSSS, 2015, 2015a, 2016) have led to some conclusions about the need of the Arctic areas for food, taking into account the norms of quality food intake [25] and the Russian Federation Consumer basket [26].

We also support ideas by Burrigo (2013) [27], Lowitt (2014) [28], Eriksen (2008) [29], Nelson et al. (2013) [30] on the need to involve local communities in establishment of food security. In addition, we took into account the five secure diet conditions laid down by WHO for the population of the extreme regions (World Health Organization, 2006) [31]. Studies by Akhmadulina (2012) [32], Koptseva (2015) [33], and Kondrashev et al. (2016) [34] have contributed positively to our research.

Voluminous work by Gjertsen & Halseth, (2015) [35] covers the issues of international partnership, municipal governance and development problems in the indigenous peoples' places of residence.

**3. The purpose of this paper** is to analyse the strategies of the Member States of the Arctic Council aimed at development of the Arctic region, and to define whether they firmly consider interests of the population of Arctic areas and of the indigenous peoples in the region. The article also examines the possibilities of the population and indigenous peoples to solve the food security issues.

#### 4. Results

##### Part I. Analysis of the Arctic States strategies

In 1996, eight Arctic states (Canada, Denmark, Finland, Iceland, Norway, Russian Federation, and USA) established the Arctic Council to address regional issues on the permanent basis [6]. Declarations, adopted in the framework of the Arctic Council over the past 20 years do not create the norms of international law themselves, but «they can indicate a stage in a new norm of applicable law creation» (Government of Canada, 2013) [6].

The analysis of Member States' strategies makes it possible to underline both similarities and differences, mainly coming out of the fact whether a state has or does not have a direct access to the Arctic Ocean. Specific elements of the strategies also depend on individual perception of national interests and opportunities.

The strategies are different in size. The most brief is Iceland's strategy containing just three pages. The most voluminous and detailed are those of Norway, Finland, Denmark (about 50 pages each), and Sweden (36 pages). Russia and Canada have 25-pages strategies, and USA adopted 12-page text.

The biggest part in the Nordic countries' strategies texts is devoted to the maritime, environmental, climate, and indigenous peoples issues, as well as international cooperation and development of tourism.

Finland's Strategy defines exact amounts of finances allocated to the programs of the North partnership, to combat pollution in the Arctic, and to develop cooperation with neighbouring countries.

Norway Strategy determines financing of scientific research in the circumpolar North areas.

Arctic territories of Denmark are located on Faroe Islands and Greenland. Therefore, strategy puts emphasis on cooperation with Canada, interaction among governments of Denmark, Greenland and Faroe Islands.

Particular attention in the strategies of Russia, Canada, Finland, Sweden and Norway is paid to indigenous peoples. The need to create conditions for their traditional way of life, and empower it with modern capabilities in healthcare, education, etc is highlighted.

All strategies stress out the importance of traditions of indigenous peoples, and the need to take it into account in development of the Arctic.

All Arctic states plan to implement, realize, and strengthen their sovereignty in the region. To stimulate economic and social development, Denmark, Canada, Russia, and USA consider it necessary to map their territory. All countries' strategies highlight the importance of international cooperation aimed at research, environment, nature conservation, energy resources, and innovation.

Studying into the areas of the activities specified in the strategies makes it possible to draw some conclusions about the priorities of each state. So security interests are prioritized in the US strategy ranging from energy security, to business environment, to national defence. Only strategies of Iceland and Finland do not touch upon national defence issues, although all states emphasize that they see the Arctic as a region where peace and cooperation flourish.

Another important priority of the Arctic states is the issue of utilization of resources of the continental shelf, as this issue already produced tensions between Russia, Canada, and Denmark. Russia has already submitted the claim to the UN Commission on the Continental Shelf for consideration [14].

The Russian strategy (Government of the Russian Federation, 2013) provides an overview of the current state of socio-economic development in the Arctic zone of the Russian

Federation, analyzes the risks and threats to the social and economic development, defines further development priorities. These priorities include:

- integrated socio-economic development of the Russian Arctic with the food security problem solution;
- development of science and technology;
- creation of modern information and telecommunication infrastructure;
- environmental security;
- international cooperation in the Arctic;
- military security, defence and protection of the state border of the Russian Federation in the Arctic.

Berg (2010) [15] analyzes the strategies of the Arctic states based upon these economic assumptions, and predicts the expansion of interest to the Arctic region to other global players. He believes that the demand for security strategies will increase dramatically.

##### Part II. Food security problems in the North and the Arctic

In order to attain an integrated socioeconomic development of the Arctic territories it is necessary to improve the state governance, the quality of life of the indigenous population, and social conditions for economic activities in the Arctic.

In the recent years optimization of the state governance system in Russia led to merger of several autonomous regions with the larger constituent territories as a municipal districts.

Regulation for the territories of traditional nature use was devolved to the sub-national level of appropriate legislation. As an example of this legislative practice, we should name laws of Krasnoyarsk Krai «On State Support of Reindeer Herding in Krasnoyarsk Krai» of 11.12.2012 and «On Protection of Original Communal Habitat and Traditional Way of Life of Indigenous Peoples of Krasnoyarsk Krai» of 25.11.2010.

These laws themselves require further clarification and comments, leaving a lot of issues regarding indigenous peoples without proper and comprehensive regulation. Besides, numerous conflicts between Federal laws and legal acts at sub-national level exist.

Different orders and amendments issued by the Ministry of Agriculture of Russia introduce restrictions of use of certain natural resources, producing obstacles to profit from traditional food sources in the region. Thus, ban on fishing with certain types of gear was imposed. Changes made in 2016 to the order No. 385 «On Approval of Fishing Rules for the Far East Fishery Basin» of October 21, 2013 can serve as an example. In the spring of 2016, such changes led to the disruption of fish procurement by indigenous peoples in the Far East. By the time the order was cancelled, the fishing season ended. The indigenous population was left without an important part of their diet. The problem of the fishing areas also remains unresolved in Krasnoyarsk Krai. Although in 2015 the order of the Governor approved the list of areas, and a fishing quota for personal consumption increased comparing to 2014, even «these measures cannot solve the problem of economic development of indigenous peoples» (Commissioner for Human Rights, 2015) [17].

The majority of complaints to the Commissioner in 2015 (up to 70%) [18] are related to the realization of the right to the protection of traditional habitat, traditional way of life and nature management (Legislative council of Krasnoyarsk Krai, 2016).

The analysis of complaints to the Commissioner indicates that a violation of the rights of indigenous peoples is due to the imperfection of the legislation, as well as «illiterate», ill-considered law applying practice.

The activity of the Ministry of Natural Resources and Ecology of Krasnoyarsk Krai aimed at the forcible seizure and withdrawal of territories belonging to indigenous habitat can serve as an example of the latter. The Ministry ignored local legislation, and tried to force indigenous communities to meet requirements on fire safety equipment according to the Ministry guidelines, the implementation of which under the permafrost conditions is devoid of common sense. In 2015 seven lawsuits



were filed against tribal communities. After the Commissioner's report at the session of the Legislative Assembly of Krasnoyarsk Krai the Order of the Ministry of Natural Resources was cancelled.

Conflicts often arise with forest parcels lease contracts. According to the law the opinion of tribal indigenous communities shall be taken into account if these parcels are located on the territories of traditional management. Barbarian deforestation destroys community infrastructure. Logging companies are one-day firms, and there is obviously no one to claim damages against. All subsoil users are hardly willing to establish contacts with the authorities and tribal communities.

Hence, in Evenk Autonomous Area (the Eastern Siberian Arctic), an independent oil company's employees do not allow local people to approach indigenous lands, violate environmental regulations, admit the river Yenisei pollution with the chemicals brought for industrial purposes. A similar case took place during the flood in 2015.

More than 12 tons of harmful chemicals were dumped into the river. The damage was caused not only to indigenous peoples, but to the entire population of the Arctic area. The Commissioner expressed hope that the implementation of the Strategy for the Russian Arctic will allow to eliminate many of the issues regarding the conservation of the traditional territories.

The Russian strategy for the Arctic up to 2020 stresses on the implementation of rational environmental management in the areas of traditional logging and economy of indigenous peoples of the Far North. The analysis of the current situation shows that the solution to this problem until 2020 seems to be extremely problematic.

An important problem in the field of the traditional territories security is the lack of study and systematization of traditional knowledge of indigenous peoples of the Far North and the Arctic, although the importance of indigenous peoples' knowledge during the development of Arctic resources is emphasized in the strategies of all Arctic states. The outbreak of anthrax in Yamal Peninsula confirms the importance of such knowledge. Such incidents could inflict substantial damage to food security in the region. In accordance with the Presidential decree, implications of natural and man-made emergencies are an agro-environmental risk of food security (President of the Russian Federation, 2010) [19].

Indigenous peoples are aware of the burial grounds for contaminated animals' remains and abandoned nomad camps, which may contain anthrax spores. Accordingly, to bypass potentially dangerous places the nomadic and traditional nature management routes are chosen. Global warming and the anthropogenic human activities' effect have led to the shifts of nomadic routes, moving them closer to dangerous places. People recruited to work in the North territory have no idea of the impending risks altogether.

In order to prevent situations such as the one in Yamal Peninsula, it is necessary to compile the information about dangerous areas, including that from indigenous peoples. At least, everyone working in the Arctic should get access to this information, and be warned about possible risks and dangers.

Expenses of anthrax outbreaks elimination, and its impact on Yamal Peninsula, the destruction of a large part of the reindeer population are practical proof of the importance of traditional knowledge of indigenous peoples, which can play an important role in food security of the Arctic areas.

According to Canadian researchers, food safety in the Arctic is a long-standing problem, the most important criteria of which are geographical location, the countries' foodstuffs contamination by pollutants, the impact of climate change, and economic vulnerability (Inuit Circumpolar Council, 2012) [20]. Like many of the world's 24 major migrating caribou herds,

the Bathurst herd is not faring well. In 1986, scientists estimated there were as many as 450,000 animals in the herd. Today, there are roughly 20,000. A growing number of roads, pipelines, and mines threaten to destroy caribou habitat and interfere with their migration. Global warming is taking a heavy toll on the animals. More biting flies and parasites, for example, sap the caribou's energy reserves. Ross Thompson, the executive director of the Beverly Qamanirjuaq Caribou Management Board, says: «There is this impression in government and in some circles that jobs, jobs, jobs will fuel the economy, which helps to manage two caribou herds that migrate across Manitoba, Saskatchewan, the Northwest Territories, and Nunavut. What they do not realize is that in many communities the caribou are the economy» (Struzik, 2016) [21].

Some economists estimate the economic value of the Beverly Qamanirjuaq caribou herds at \$20 million annually. To each hunter in Nunavut, one caribou was worth \$1,720 in income, the studies said. To replace caribou with high grade beef it would cost hunters three to five times more (Struzik, 2016) [21].

Food security issues must be solved with respect to the capabilities of population of the Northern areas to produce staple agricultural foods.

Knowing the volume of our own production, we can determine what types of food should be imported from other areas of Krasnoyarsk Krai and Russian Federation.

In order to define the Northern areas population need for foodstuff, we analysed data on the main types of products in these regions in 2015 [24]. Turukhansk district (the Eastern Siberian Arctic) produced (in tonnes): potatoes - 2,106.5, vegetables - 354.3, meat - 373.0, milk - 1,957.0, eggs - 541,000.0 pieces (FSSS, 2016) [22].

Taymyr Dolgan-Nenets municipal district (the Eastern Siberian Arctic) produced (in tonnes): meat - 333.0, milk - 32.0, eggs - 8,000.0 pieces (FSSS, 2015) [23].

The Evenk municipal district (the Eastern Siberian Arctic) produced (in tonnes): potatoes - 1,839.0, vegetables - 451.0, meat - 103.0, milk - 598.0, eggs - 204,000.0 pieces (FSSS, 2015a) [24].

Determining the portion of produced foodstuff to rational consumption norms and standards of food consumption in the consumer basket of the Russian Federation makes it possible to define the necessary amount of food to be imported from other regions.

Table 1 shows the percentage of self-sufficiency of the population of the Arctic and the Northern areas in agricultural products.

The following method was used for calculations: an annual norm of consumption in the area is set by multiplying one person annual norm of consumption by the number of a certain area residents (16,853 people live in Turukhansk area,

**Tab. 1: Self-sufficiency of population in the Arctic areas of the Far North, Krasnoyarsk Krai, in basic agricultural foods (as a percentage of the rational food consumption norms and the Russian Federation the basket of goods standards)**

District (the Eastern Siberian Arctic), population	Potato	Vegetables	Meat	Milk	Egg
Turukhansk district 16,853 people	125.0 <sup>1</sup> 131.0 <sup>2</sup>	18.4 <sup>1</sup> 17.6 <sup>2</sup>	40.0 <sup>1</sup> 31.8 <sup>2</sup>	40.0 <sup>1</sup> 36.3 <sup>2</sup>	15.3 <sup>1</sup> 13.3 <sup>2</sup>
Taymyr Dolgan-Nenets municipal district 22,854 people	0 <sup>1</sup> 0 <sup>2</sup>	0 <sup>1</sup> 0 <sup>2</sup>	25.0 <sup>1</sup> 14.2 <sup>2</sup>	0.48 <sup>1</sup> 0.43 <sup>2</sup>	0.16 <sup>1</sup> 0.14 <sup>2</sup>
Evenk municipal district 5,425 people	115.0 <sup>1</sup> 125.0 <sup>2</sup>	25.7 <sup>1</sup> 24.4 <sup>2</sup>	11.5 <sup>1</sup> 9.5 <sup>2</sup>	13.7 <sup>1</sup> 12.1 <sup>2</sup>	6.3 <sup>1</sup> 4.1 <sup>2</sup>

Notes:

1. Consumption norms are established by the Federal Law No. 227-FZ «On the basket of goods across the Russian Federation» dated December 3, 2012 [26].
2. Rational consumption norms are established by the Order No 593n of the Ministry of Health and Social Development of the Russian Federation «On Approval of the recommendations on rational foodstuffs consumption norms that meet the modern requirements of a healthy diet» dated August 2, 2010 [25].

Source: Compiled by the authors

22,854 people live in Taymyr Dolgan-Nenets municipal district, and 15,425 people live in Evenk municipal district).

We have determined the percentage of foodstuff produced to the district annual norm of consumption.

Here we need to note that rational consumption norms on almost all types of foodstuff is slightly higher than the volume of consumption of foodstuff included in the basket of goods, except for bread and pasta.

Rational meat consumption norm is 70 kg per person per year. The basket of goods contains 58 kg of meat. Rational milk consumption norm is 320 kg (including dairy products). The basket of goods norm is 30 kg less. Eggs are 50 pieces less per year (rational consumption norm is 260 pieces while a basket of goods contains 210 pieces). Fish and vegetable oil norms are equal - 18 kg and 10 kg respectively. Making tables 1 and 2, we also took into account rational consumption norms and the basket of goods standards.

In Turukhansk and Evenk districts, population fully satisfies own need for potato. Real production even exceeds consumption norms by 25-30%. Production of vegetables lags 18-25% behind requirements, thus it can be compensated by additional potato consumption.

In Taymyr Dolgan-Nenets municipal district, any agriculture of potatoes and vegetables is near to impossible because of the permafrost. But up to 25% of needs is still met by local production. In Turukhansk district, 1,957 tons of milk, or 40% of the need, was produced in 2015. In Taymyr region self-sufficiency in milk and eggs is 1% less of the need.

Table 2 shows the quantitative data in the required additional food, which are obtained as the difference between the annual consumption norm across the area, and each region's own production of certain types of food.

All types of foods except potatoes are to be imported from other areas of Krasnoyarsk Krai and Russian Federation. There is no need for Turukhansk and Evenk districts to bring in potatoes. To meet Taymyr Dolgan-Nenets municipal district need for food, all kinds of agricultural foodstuffs are required to be brought in. Many of them can be brought in from other areas of Krasnoyarsk Krai. To provide with certain types of food (vegetable oil, sugar, tea, spices), there is a need for import from other regions of the Russian Federation or from foreign countries.

The potential of the indigenous peoples to solve food security issues in the Arctic areas in terms of securing meat (venison, elk), fish, berries, nuts, and other wild plants is still not used. The interest of the population of the Northern Territories and indigenous peoples in this issue is to increase the traditional natural foods supply. The solution to the food security problem requires a comprehensive approach, taking into ac-

count all opportunities to involve the population of the Northern areas and the Arctic.

Many researchers, in particular Butrico (2013), emphasize the need to involve the population of the Arctic areas and local resources in food security strategies. Nearly every country has a traditional or national diet, comprised of foods historically grown or produced in that region. For example, Iceland has been producing and consuming skyr, a specific type of yogurt, since it was first settled by Vikings. Foods of this nature embody national identity, and its production and consumption acts as a display of national pride. So when a national diet is slowly shifting towards foreign food, the demand for traditional foods decreases. Sometimes these foods disappear completely, or become novelties that are made in small quantities [27].

While analyzing situation in Canada and on Newfoundland, Lowitt (2014), Eriksen (2008), and Nelson et al (2013) point out the need to take into account the contribution of local fisheries into communities' food security. Many local food producers depended upon a combination of selling, subsistence use and bartering; at the same time, many households acquired foods based on a combination of food purchasing and self-provisioning. Particularly, in the context of growing, discussion about resilience in food systems and food security (see Eriksen, 2008) is heading towards research of formal and informal food economies' ability to provide the «collective strength» necessary for supporting more resilient and diversified food systems.

The micro-elements' composition is also an important aspect of food security. According to the Center for Biotic Medicine, in Krasnoyarsk Krai the main deficit is in cobalt, magnesium, copper, and iodine consumption. To overcome their deficit, regular diet should contain fruits (for example, apples and feijoa), vegetables (potatoes, carrots, beets, radishes, green onions, peas), garlic, walnuts, cashew nuts, milk, liver, buckwheat, mineral water, and other foodstuffs.

The number of necessary products per a municipality can be calculated by taking nutrition standards as a basis. It is important to note that except for laminaria, seafood and apples, all other kinds of basic foodstuff are produced within Krasnoyarsk Krai. The needs of the northern regions for potatoes and root vegetables, except for Taymyr, are met through self-sufficiency by households. A study by Akhmadullina (2012) [32] confirms the possibility of almost complete solution to the micro-elements imbalance compensation through the foodstuff that are produced in the Siberian Federal District and Krasnoyarsk Krai.

**5. Conclusions**

Solving the Arctic food security problem precludes a wide range of requirements from compliance with the Five Key Principles of Safe Food by the WHO to the self-sufficiency of the population, to the indigenous peoples participation with their traditional livelihoods practices (hunting, fishing, herding, etc) [31].

Both strategies and food security and development programs in the Arctic should take into consideration the indigenous peoples' interests in social and economic spheres. Special emphasize should be put on existing natural disasters and anthropogenic hazards. Only a comprehensive approach will help to reduce the risks, and provide the population of the northern areas with the balanced food under the world food security recommendations, elaborated by the United Nations in the Millennium Declaration and Sustainable development in the circum-polar North.

**Tab. 2: The foodstuff to be imported from other areas (including rational consumption norms and food consumer norms according to the basket of goods)**

District (the Eastern Siberian Arctic)	Potato, t	Vegetables, t	Meat, t	Milk, t	Eggs, pcs
Turukhansk district	-	1,567.0 <sup>1</sup> 1,668.0 <sup>2</sup>	940.2 <sup>1</sup> 1,142.0 <sup>2</sup>	2,930.0 <sup>1</sup> 3,436.0 <sup>2</sup>	2,998.0 <sup>1</sup> 3,841.0 <sup>2</sup>
Taymyr Dolgan-Nenets municipal district	2,285.0 <sup>1</sup> 2,171.0 <sup>2</sup>	2,605.0 <sup>1</sup> 2,742.0 <sup>2</sup>	992.0 <sup>1</sup> 1,266.0 <sup>2</sup>	6,595.0 <sup>1</sup> 7,281.0 <sup>2</sup>	4,791.0 <sup>1</sup> 5,934.0 <sup>2</sup>
Evenk municipal district	-	1,307.0 <sup>1</sup> 1,359.0 <sup>2</sup>	791.0 <sup>1</sup> 976.0 <sup>2</sup>	3,875.0 <sup>1</sup> 4,338.0 <sup>2</sup>	3,035.3 <sup>1</sup> 3,806.5 <sup>2</sup>

Notes:  
1. According to the basket of goods.  
2. According to the norms of rational consumption.

Source: Compiled by the authors

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